



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,549	06/30/2003	Ashoke Ravi	P-5781-US	7367
27130	7590	12/23/2004	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			CHANG, JOSEPH	
		ART UNIT		PAPER NUMBER
				2817

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,549	RAVI ET AL.	
	Examiner Joseph Chang	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 16-19, 23-27, 32, 34-38 and 42-45 is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 11-15, 20-22, 28, 33 and 39 is/are rejected.
- 7) Claim(s) 29-31, 40, 41 is/are objected to.
- 8) Claim(s) 1-45 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 June 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/1/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 1-6, 8-16, 20-31, 33, 35-41 and 43-45 drawn to species 5, Figure 13 in the reply filed on 10/26/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim(s) 7, 17-19, 32, 34, 42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/26/04. Upon further examination of the claims which applicant indicated, claims 1-10, 16, 23-27, 35-38 and 43-45 do not appear to be the elected species 5 (figure 13), because the recitation in the claims 1-10, 23-27, 35-38 and 43-45 "comparing between a phase of an output of the first slave oscillator and a phase of an output of the second slave oscillator" read on Species 4 (Fig.10); and Claim 16 read on Species 7, Figure 15; and therefore, claims 1-10, 16, 23-27, 35-38 and 43-45 are also withdrawn from further consideration.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The disclosure is objected to because of the following informalities: the recitation "gate" is not a generally accepted terminology for a phase detector. Appropriate correction is required.

Claims 29, 31, 33, 40 and 41 are objected to because of the following informalities: the recitation "gate" is not a generally accepted terminology for a phase detector (also recited in the withdrawn claims 24, 26, 27, 36, 37, 38). Appropriate correction is required.

Claim 33 is objected to because of the recitation "the injection input" lacking of antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-15, 20, 22, 28, 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin US Pat. No. 3,832,713.

Regarding Claim 11, Rubin discloses in the figure and Columns 1-3 a method comprising: modifying a free-running frequency (Col 1, lines 36-54) of at least one of a first slave oscillator (22), a second slave oscillator (14) and a master oscillator (20), based on comparing between a value (feedback RF voltage at 28, Col.2, line 58) responsive to a phase of an output of the first slave oscillator (22) and a value (COMPARISON VOLTAGE) responsive to a phase of an input from the master oscillator (20). (See the figure and its description in Col.1, lines 4-19).

Regarding Claims 12 and 13, Rubin discloses a method of modifying a free-running frequency comprising increasing (or decreasing) the free-running frequency if the difference between the phase of the output of the first slave oscillator and the phase of the input from the master oscillator is smaller (or larger) than 90 degree (Col. 2, lines 55 - Col. 3, Line 11).

Regarding Claim 14, Rubin discloses a method of modifying a free-running frequency comprising continuously modifying the free-running frequency (Col. 3, Lines 34-35).

Regarding Claim 15, Rubin discloses a method of modifying a free-running frequency comprising modifying a free-running frequency until the free-running frequency of the first slave oscillator is substantially equal to the frequency of the input from the master oscillator (Col. 3, Lines 1-3, 20-27).

Regarding Claim 20, Rubin discloses a method of modifying a free-running frequency comprising producing a control signal (output of 30) responsive to a phase difference between the output of the first slave oscillator and the input from the master oscillator (Col. 2, Lines 58-60).

Regarding Claim 22, Rubin discloses a method of modifying a free-running frequency comprising modifying a voltage (output of 30) supplied to the first slave oscillator (Col. 2, Lines 58-60).

Regarding Claim 28, Rubin discloses in the figure an apparatus comprising: a tuning circuit (10), a first slave oscillator (22), a second slave oscillator (14) and a

master oscillator (20) and their intrinsic functionality as discussed in the Claim 11 rejection.

Regarding Claim 33, Rubin discloses in the figure an apparatus comprising: a first gate (30, the term "gate" used in this application is a phase detector) to produce a first output signal responsive to the phase-difference between the output of the first slave oscillator (22, using feedback signal from 28) and the injection input (COMPARISON VOLTAGE); and a second gate (identical structure as 10 for 14,16,18; see Col.3, lines 4-19) to produce a second output signal responsive to the phase-difference between the output of the first gate and the output of the second slave oscillator (14) and to produce a control signal (output of 30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin in view of Prakash et al. US Pat. No. 5,717,730.

As noted in the Claim 20 rejection, Rubin discloses a method of modifying a free-running frequency comprising producing a control signal (output of 30) responsive to a phase difference between the output of the first slave oscillator and the input from the master oscillator (Col. 2, Lines 58-60).

However, the reference does not explicitly disclose a filtering the control signal.

As would have been well known in the art, a loop filter, filtering a control signal from a phase detector to ensure that a dc component of the control signal be fed to a VCO or a slave oscillator to adjust a desire frequency. As an example, Prakash et al. shows a loop filter (102A) filtering a control voltage, the output of Phase detector 101A.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to use a loop filter to filtering a control signal because such a modification would have advantageously provided a filtered control signal to ensure that a dc component of the control signal be fed to a VCO or a slave oscillator for a desire oscillation frequency.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin in view of Klemens et al. US Pat. No. 6239,755.

Rubin discloses a wireless communication device (microwave phase shifting apparatus) as noted in the Claim 28 rejection including an antenna (12).

However, the reference does not explicitly disclose the antenna being a dipole antenna.

As would have been well known in the art, a dipole antenna can receive and transmit signals from and to in all directions. As an example, Klemens et al. shows a dipole antenna to receive and to transmit signals from and to in all directions.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to use a dipole antenna because such a usage would have advantageously provided a wireless communication means to receive and to transmit signals from and to in all directions.

Allowable Subject Matter

Claims 29-31, 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the best prior art of record, Rubin, taken alone or in combination of other references, does not teach or fairly suggest "a subtractor to subtract the voltage of said first output signal from said second output signal and to produce a control signal" (Claims 29-30, 40), or "a second gate" (Claim 31, 41).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bletz et al discloses time base generator having a plurality of oscillators.

Lenk discloses a plurality of synchronizable oscillators.

Gharpurey discloses a quadrature oscillator having two oscillators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Chang
Patent Examiner
Art Unit 2817